

Attorney Docket No. 101992-200

U.S. Serial No. 09/599,371

Page 2 of 14

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Complete Listing of Claims:

Claim 1 (previously presented): An antimicrobial composition concentrate, comprising:
pyrithione or a pyrithione complex; and
a zinc or copper or silver source selected from the group consisting of zinc or copper or silver salts, zinc or copper or silver oxides, zinc or copper or silver hydroxides, zinc or copper or silver metals, and combinations thereof;
wherein the weight ratio of said zinc or copper or silver source to said pyrithione or said pyrithione complex is in the range from 1:300 to 50:1, and wherein said antimicrobial composition has an enhanced biocidal effect against microorganisms selected from the group consisting of free-living microorganisms, parasitic microorganisms, adherent microorganisms, biofilms, and combinations thereof, upon dilution of the concentrate in a working fluid of at a dilution rate of between about 1:10 and about 1:100.

Claims 2 - 9 (canceled)

Claim 10 (previously presented): The antimicrobial composition of claim 1, wherein said zinc or copper or silver source is generated electrolytically.

Claim 11 (previously presented): The antimicrobial composition of claim 1, wherein said weight ratio of said zinc or copper or silver source to said pyrithione or said pyrithione complex is in the range of from about 1:100 to about 1:10.

Claims 12 - 32 (canceled)

Claim 33 (previously presented): An antimicrobial composition concentrate useful upon dilution for treating microorganisms selected from the group consisting of free-living microorganisms, parasitic microorganisms, adherent microorganisms, biofilms, and combinations thereof, comprising:

Attorney Docket No. 101992-200
U.S. Serial No. 09/599,371
Page 3 of 14

a salt of pyrrhithione; and
a water soluble zinc metal salt;
wherein the weight ratio of said water-soluble zinc metal salt to said salt of pyrrhithione is in the range from 1:100 to 1:10 and wherein said antimicrobial composition has an enhanced biocidal effect against microorganisms selected from the group consisting of free-living microorganisms, parasitic microorganisms, adherent microorganisms, biofilms, and combinations thereof, upon dilution in a working fluid at a dilution ratio of the concentrate to the working fluid of between about 1:10 and about 1:100.

Claim 34 (previously presented): The antimicrobial composition concentrate of claim 33, wherein said salt of

pyrrhithione is sodium pyrrhithione and said zinc metal salt is selected from the group consisting of zinc chloride, zinc oxide, zinc sulfate, and combinations thereof.

Claims 35 - 42 (canceled)

Claim 43 (previously presented): An antimicrobial composition concentrate, comprising:

pyrrhithione or a pyrrhithione complex; and
zinc from a zinc source selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof;

wherein the weight ratio of said zinc source to said pyrrhithione or said pyrrhithione complex is in the range from 50:1 to 1:50, and wherein said antimicrobial composition has an enhanced biocidal effect against microorganisms selected from the group consisting of bacteria, fungi, and combinations thereof, upon dilution of the concentrate in a working fluid at a dilution rate of between about 1:10 and about 1:100.

Claim 44 (previously presented): An antimicrobial composition, comprising:

pyrrhithione or a pyrrhithione complex; and
silver source selected from the group consisting of silver salts, silver oxides, silver hydroxides, silver metals, silver complexes, and combinations thereof;
wherein the weight ratio of said silver source to said pyrrhithione or said pyrrhithione complex is in the range from about 1:100 to about 1:10, and wherein said

Attorney Docket No. 101992-200
U.S. Serial No. 09/599,371
Page 4 of 14

antimicrobial composition has an enhanced biocidal effect against microorganisms selected from the group consisting of free-living microorganisms, parasitic microorganisms, adherent microorganisms, biofilms, and combinations thereof.

Claim 45 (previously presented): An antimicrobial composition, comprising:

pyrithione or a pyrithione complex; and

a zinc source selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof;

wherein the weight ratio of said zinc source to said pyrithione or said pyrithione complex is present in a ratio from 1:100 to 1:10, said antimicrobial compositions being free of thiazolinone and free of a strong chelating agent.

Claim 46 (canceled)

Claim 47 (canceled)

Claim 48 (previously presented): The antimicrobial composition of claim 1 which

additionally comprises water or an organic solvent, wherein said organic solvent is an alkanolamine.

Claim 49 (canceled)

Claim 50 (previously presented): An antimicrobial composition concentrate useful upon dilution for treating microorganisms selected from the group consisting of free-living microorganisms, parasitic microorganisms, adherent microorganisms, biofilms, and combinations thereof, comprising:

a salt of pyrithione; and

a water soluble zinc metal salt;

wherein the weight ratio of said water-soluble zinc metal salt to said salt of pyrithione is in the range from 50:1 to 1:50 and wherein said antimicrobial composition has an enhanced biocidal effect against microorganisms selected from the group consisting of free-living microorganisms, parasitic microorganisms, adherent microorganisms,

Attorney Docket No. 101992-200

U.S. Serial No. 09/599,371

Page 5 of 14

biofilms, and combinations thereof, upon dilution in a working fluid at a dilution ratio of the concentrate to the working fluid of between about 1:10 and about 1:100,

said antimicrobial composition additionally comprises water or an organic solvent, wherein said organic solvent is an alkanolamine.

Claim 51 (canceled)

Claim 52 (previously presented): An antimicrobial composition concentrate, comprising: pyrithione or a pyrithione complex; and zinc from a zinc source selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof; wherein the weight ratio of said zinc source to said pyrithione or said pyrithione complex is in the range from 50:1 to 1:50, and wherein said antimicrobial composition has an enhanced biocidal effect against microorganisms selected from the group consisting of bacteria, fungi, and combinations thereof, upon dilution of the concentrate in a working fluid at a dilution rate of between about 1:10 and about 1:100,

said antimicrobial composition additionally comprises water or an organic solvent, wherein said organic solvent is an alkanolamine.

Claim 53 (canceled)

Claim 54 (previously presented): An antimicrobial composition, comprising: pyrithione or a pyrithione complex; and silver source selected from the group consisting of silver salts, silver oxides, silver hydroxides, silver metals, silver complexes, and combinations thereof, wherein the weight ratio of said silver source to said pyrithione or said pyrithione complex is in the range from about 1:100 to about 1:10, and wherein said antimicrobial composition has an enhanced biocidal effect against microorganisms selected from the group consisting of free-living microorganisms, parasitic microorganisms, adherent microorganisms, biofilms, and combinations thereof

Attorney Docket No. 101992-200

U.S. Serial No. 09/599,371

Page 6 of 14

the antimicrobial composition concentrate additionally comprises water or an organic solvent, wherein said organic solvent is an alkanolamine.

Claim 55 (canceled)

Claim 56 (previously presented): An antimicrobial composition, comprising:
pyrithione or a pyrithione complex; and
a zinc source selected from the group consisting of zinc salts, zinc oxides, zinc hydroxides, and combinations thereof,
wherein the weight ratio of said zinc source to said pyrithione or said pyrithione complex is present in a ratio from 1:100 to 1:10, said antimicrobial compositions being free of thiazolinone and free of a strong chelating agent,
said antimicrobial composition additionally comprises water or an organic solvent, wherein said organic solvent is an alkanolamine.

Claim 57 (previously presented): The antimicrobial composition of claim 1 wherein said zinc or copper or silver salts is selected from the group consisting of zinc or copper or silver sulfates, zinc or copper or silver chlorides, and combinations thereof.

Claim 58 (canceled)